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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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John Border

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01/13/2006

Hughes Electronics Corporation

Patent Docket Administration

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EXAMINER

STRANGE, AARON N

ART UNIT

PAPER NUMBER

2153

DATE MAILED: 01/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 09/996,445 | BORDER ET AL. | |
| | Examiner | Art Unit | |
| | Aaron Strange | 2153 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-5,7,8,10-12,14,15,17-19,21,22,24-26 and 28-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-5,7,8,10-12,14,15,17-19,21,22,24-26 and 28-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1,3-5,7,8,10-12,14,15,17-19,21,22,24-26 and 28-38 have been considered but are moot in view of the new ground(s) of rejection.
2. With regard to Applicant's assertion that claims 22,24-26 and 28 are statutory, the Examiner respectfully disagrees. As discussed in the Office action of 6/30/2005, those claims include claims to acoustic waves, light waves, etc, and are considered nonstatutory. The Examiner recommends that Applicant consult the recently published "Interim Guidelines for Examination of Patent Applications for Patent Matter Eligibility", esp Pages 50-57, available at:
www.uspto.gov/web/offices/pac/dapp/opla/preognotice/guidelines101_20051026.pdf

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 22, 24-26 and 28 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

5. The "computer-readable medium" claimed in claims 22-28, as defined in the specification, is not limited to a tangible physical medium. For example, the specification states that "Such a medium may take many forms, including but not limited to, non-volatile media, volatile media, and transmission media." The specification further states "Transmission media can also take the form of acoustic or light waves, such as those generated during radio wave and infrared data communication." The specification also provides that the medium may be a carrier wave as well as additional types of mediums that are not tangible physical mediums (Present Application, Paragraph 71 to 75). Since the instructions are not necessarily tangibly embodied on a computer readable medium, the claims are merely a manipulation of abstract ideas.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 1,3-5,7,8,10-12,14,15,17-19,21,22,24-26 and 28-34 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

8. Claim 1 recites the limitation "forward the object based on a predetermined criteria relating to the object, including life of the object". The specification fails to define or describe the "life of the object" or how any the forwarding of any object is based on the "life of the object". Forwarding criteria are described in ¶41 of the present application, where it states that the criteria may be (1) object size, and (2) "cacheability". Clearly, criteria (1) does not include the "life of the object", and criteria (2) refers only to the "time to live" of objects, and forwarding objects with a short "time to live". However, this does not clearly describe or provide support for the claimed limitation "life of the object".

As best understood by the Examiner, it appears that Applicant is referring to the "time to live" characteristic of objects and means that objects are forwarded based on when they will expire, and it has been interpreted as such for the purpose of applying prior art. Amendments to the claims incorporating language which is supported by the specification is recommended. If Applicant is referring to the "time to live" attribute, use of that terminology is suggested.

9. Independent claims 8, 15 and 22 contain similar recitations to claim 1 and are rejected under the same rationale. All claims not individually rejected are rejected by virtue of their dependency from the above claims.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 1,7,8,14,15,21,22,28,29,31,32,34-36, and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carneal et al. (US 6,282,542) in view of Netscape ("Persistent Client State HTTP Cookies") in further view of Cohen et al. (US 6,330,561).

12. With regard to claim 1, Carneal discloses a communication system comprising: a downstream proxy server (access point) configured to communicate with a client (web browsers connect to access point) (Col 7, Lines 61-63) that is configured to transmit a message requesting content (web page) specifying an object (inline object) from a content server (Col 8, Lines 7-14), and

an upstream proxy server (satellite gateway) configured to retrieve the object from the content server and to forward the object over a data network to the downstream proxy server prior to the client transmitting another message requesting the object (Col 8, Lines 29-42). However, Carneal fails to specifically disclose that the client request includes a cookie, including the cookie in the request to the content server, or

forwarding the object based on a predetermined criteria relating to the object, including life of the object.

Netscape teaches including cookies in requests for web pages, and teaches forwarding the cookies through proxies with client requests (Page 4, Lines 8-9). This allows clients behind proxies to send state information to servers and receive customized content in response to requests.

Cohen discloses a similar prefetching system and teaches examining a list of resources received at a proxy and removes or replaces stale versions of content. This would have been an advantageous addition to the system disclosed by Carneal since it would have only forwarded data that has expired, reducing the amount of bandwidth wasted by transmitting data that the downstream proxy already has cached.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to forward cookies contained in client responses through the proxy server to the content server so that the client may send state information to the content server and receive customized content in response as well as forwarding the objects based on a predetermined criteria including the life of the object in order to save bandwidth by only transmitting stale content to the downstream server.

13. With regard to claim 7, Carneal further discloses that the content conforms with a markup language that includes Hypertext Markup Language (HTML) (web pages) (Col 8, Lines 7-10). Carneal discloses that the web pages being fetched conform with HTML (Col 1, Line 59-Col 2, Line 9).

14. With regard to claims 8,15, and 22, Carneal further discloses receiving a message, forwarded by a downstream server, from the client (Col 8, Lines 7-14); retrieving the content (web page) specifying an object (inline object) based on a read-ahead request (Col 8, Lines 14-28); and

forwarding the object over a communications link to the downstream server prior to the client transmitting a message requesting the object (Col 8, Lines 35-37).

However, Carneal fails to specifically disclose determining whether the message includes a cookie associated with the client, including the cookie in a read-ahead request, or forwarding the object based on a predetermined criteria relating to the object, including life of the object.

Netscape teaches including cookies in requests for web pages, and teaches forwarding the cookies through proxies with client requests (Page 4, Lines 8-9). This allows clients behind proxies to send state information to servers and receive customized content in response to requests.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to forward cookies contained in client responses through the proxy server to the content server so that the client may send state information to the content server and receive customized content in response.

15. With regard to claims 14,21, and 28, Carneal further discloses that the content conforms with a markup language that includes Hypertext Markup Language (HTML)

(web pages) (Col 8, Lines 7-10). Carneal discloses that the web pages being fetched conform with HTML (Col 1, Line 59-Col 2, Line 9).

16. With regard to claims 29 and 32, Carneal further discloses receiving a list specifying expected objects corresponding to the content; and blocking requests from the client for objects on the list from being transmitted to the upstream server (Col 8, Lines 40-48).

17. With regard to claims 31 and 34, Carneal further discloses explicitly tracking objects stored in a local cache, and forwarding the message only if the object associated with the requested content is not stored in the local cache (Col 8, Lines 44-53).

18. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Carneal et al. (US 6,282,542) in view of Netscape ("Persistent Client State HTTP Cookies") in further view of Cohen et al. (US 6,330,561) in further view of Sridhar et al. (US 6,266,701).

19. With regard to claim 3, while the system disclosed by Carneal, Netscape and Cohen shows substantial features of the claimed invention (discussed above), it fails to disclose that the downstream proxy server and the upstream proxy server communicate over a communications link that includes at least one of plurality of Transmission

Control Protocol (TCP) connections to support parallel Hypertext Transfer Protocol (HTTP) transactions, and a multiplexed connection of HTTP transactions.

Sridhar teaches the use of a multiplexed connection of HTTP transactions to increase the efficiency of data transfer of web pages containing embedded objects across a satellite link. This allows multiple data streams to be handled using a single instance of the transfer protocol (Col 12, Lines 25-39 and 52-56), reducing overhead and latency of the connection (Col 5, Lines 17-19).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a multiplexed connection of HTTP transactions to communicate between the upstream and downstream proxy servers. This would have reduced the overhead and latency of the connection when requesting web pages with embedded objects.

20. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Carneal et al. (US 6,282,542) in view of Netscape ("Persistent Client State HTTP Cookies") in further view of Cohen et al. (US 6,330,561) in further view of Quantum Prime Communications.

21. With regard to claim 4, Carneal further discloses that the data network includes at a satellite network (Col 5, Lines 9-20), but fails to specifically disclose that the network is a Very Small Aperture Terminal (VSAT) satellite network.

Quantum Prime Communications teaches the use of VSAT technology for

satellite networks and discloses several advantages of VSAT over conventional terrestrial networks, such as a fixed cost, decreased installation time, and few geographical limitations.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the satellite network disclosed by Carneal as a VSAT satellite network since it would have allowed the network to be implemented quickly and without the limitations of terrestrial networks.

22. Claims 10,17, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carneal et al. (US 6,282,542) in view of Netscape ("Persistent Client State HTTP Cookies") in further view of Cohen et al. (US 6,330,561) in further view of Sridhar et al. (US 6,266,701).

23. With regard to claims 10,17, and 24, while the system disclosed by Carneal, Netscape and Cohen shows substantial features of the claimed invention (discussed above), it fails to disclose that the downstream proxy server and the upstream proxy server communicate over a communications link that includes at least one of plurality of Transmission Control Protocol (TCP) connections to support parallel Hypertext Transfer Protocol (HTTP) transactions, and a multiplexed connection of HTTP transactions.

Sridhar teaches the use of a multiplexed connection of HTTP transactions to increase the efficiency of data transfer of web pages containing embedded objects across a satellite link. This allows multiple data streams to be handled using a single

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instance of the transfer protocol (Col 12, Lines 25-39 and 52-56), reducing overhead and latency of the connection (Col 5, Lines 17-19).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a multiplexed connection of HTTP transactions to communicate between the upstream and downstream proxy servers. This would have reduced the overhead and latency of the connection when requesting web pages with embedded objects.

24. Claims 11, 18, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carneal et al. (US 6,282,542) in view of Netscape ("Persistent Client State HTTP Cookies") in further view of Cohen et al. (US 6,330,561) in further view of Quantum Prime Communications.

25. With regard to claims 11, 18, and 25, Carneal further discloses that the data network includes at a satellite network (Col 5, Lines 9-20), but fails to specifically disclose that the network is a Very Small Aperture Terminal (VSAT) satellite network.

Quantum Prime Communications teaches the use of VSAT technology for satellite networks and discloses several advantages of VSAT over conventional terrestrial networks, such as a fixed cost, decreased installation time, and few geographical limitations.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the satellite network disclosed by Carneal as

a VSAT satellite network since it would have allowed the network to be implemented quickly and without the limitations of terrestrial networks.

26. Claims 5, 12, 19, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carneal et al. (US 6,282,542) in view of Netscape ("Persistent Client State HTTP Cookies") in further view of Cohen et al. (US 6,330,561) in further view of Marks et al. (US 6,463,447).

27. With regard to claims 5, 12, 19, and 26, while the system disclosed by Carneal, Netscape and Cohen shows substantial features of the claimed invention (discussed above), it fails to disclose that the plurality of proxy servers include other downstream proxy servers, the upstream proxy server multicasting the object to the downstream proxy servers over the data network.

Marks teaches the use of a plurality of downstream proxy servers and multicasting an object to the downstream proxy servers (local computing resource) (Col 4, Lines 36-41) over the data network (Col 6, Lines 42-64). The use of multiple downstream proxy servers allows more clients to be served by the network since load on the upstream proxy server is reduced when the downstream servers cache the content.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize multiple downstream proxy servers and multicast the requested objects to the servers over the data network. This would have allowed

more clients to be served by the network since load on the upstream proxy server is reduced when the downstream servers cache the objects.

28. Claims 30,33 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carneal et al. (US 6,282,542) in view of Netscape ("Persistent Client State HTTP Cookies") in further view of Cohen et al. (US 6,330,561) in further view of Harrison et al. (US 6,249,914).

29. With regard to claims 30,33, and 37, while the system disclosed by Carneal, Netscape and Cohen shows substantial features of the claimed invention (discussed above), it fails to disclose determining whether the object is cacheable, wherein the object is cacheable or the upstream server determining whether the object is cacheable.

Harrison discloses an upstream proxy server which examines objects retrieved from content servers to determine if they are cacheable. Cacheable objects forwarded to the local data manager for storage. Non-cacheable objects are forwarded to the local data manager for generation of an announcement. Examining the cacheability of the data objects by the upstream server would have been an advantageous addition to the system disclosed by Carneal, Netscape and Cohen since it would have allowed the upstream server to make decisions on how to handle cacheable and non-cacheable objects and determine whether to forward them to the cache.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to examine the retrieved objects to determine if they were cacheable in order to forward them to the appropriate location.

30. Claims 35,36 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carneal et al. (US 6,282,542) in view of Netscape ("Persistent Client State HTTP Cookies") in further view of Harrison et al. (US 6,249,914).

31. With regard to claim 35, Carneal discloses a method of providing content to a client, comprising:

receiving a message from a client requesting content (web page) specifying an object (inline object) from a content server (Col 8, Lines 7-14);

transmitting the message to an upstream server configured to retrieve the object from the content server and receiving, from the upstream server, the object prior to the client transmitting another message requesting the content (Col 8, Lines 29-42).

However, Carneal fails to specifically disclose that the client request includes a cookie, including the cookie in the request to the content server, or determining whether the object is cacheable.

Netscape teaches including cookies in requests for web pages, and teaches forwarding the cookies through proxies with client requests (Page 4, Lines 8-9). This allows clients behind proxies to send state information to servers and receive customized content in response to requests.

Harrison discloses an upstream proxy server which examines objects retrieved from content servers to determine if they are cacheable. Cacheable objects forwarded to the local data manager for storage. Non-cacheable objects are forwarded to the local data manager for generation of an announcement. Examining the cacheability of the data objects by the upstream server would have been an advantageous addition to the system disclosed by Carneal and Netscape since it would have allowed the upstream server to make decisions on how to handle cacheable and non-cacheable objects and determine whether to forward them to the cache.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to forward cookies contained in client responses through the proxy server to the content server so that the client may send state information to the content server and receive customized content in response and examine the retrieved objects to determine if they were cacheable in order to forward them to the appropriate location.

32. Claims 36 and 38 are rejected under the same rationale as claims 29,31,32, and 32, since they recite substantially identical subject matter.

Conclusion

33. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron Strange whose telephone number is 571-272-3959. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glen Burgess can be reached on 571-272-3949. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AS
1/6/2005



KRISNA LIM
PRIMARY EXAMINER